

Method Of Fabricating Patterned Polymer Film With Nanometer Scale

Abstract

A method of fabricating a patterned polymer film with nanometer scale includes filling particles each having a predetermined size in a pattern provided to a soft polymer mold to prepare an embossed stamp; placing the embossed stamp on a desired polymer film; allowing the embossed stamp placed on the polymer film to stand at temperatures higher than a glass transfer temperature of the polymer film for a predetermined time; and releasing the embossed stamp from the polymer film. Alternatively, the patterned polymer film is obtained by filling particles each having a predetermined size in a pattern provided to a soft polymer mold to prepare an embossed stamp; placing the embossed stamp on a coating layer of a polymer precursor formed on a substrate; curing the coating layer; and releasing the embossed stamp from the cured coating layer.